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ABSTRACT

An analysis of the phonological phenomenon of "isinkalakahliso" or palatalization in Xhosa, a Bantu language, is presented, focusing on its occurrence in the passive form of verbs. First, earlier theories about the phenomenon are discussed and compared, and a new analysis is offered. It is concluded that this conceptualization of "isinkalakahliso" in the Xhosa passive serves to incorporate two aspects of the phenomenon not included in earlier analyses. An 18-item bibliography is included. (MSE)

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# XHOSA ISINKALAKAHLISO AGAIN*

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The phonological phenomenon of *isinkalakahliso* characterises a number of grammatical categories in a group of Southern Bantu languages. The group falls into two sub-groups, one being Sotho and Tswana, the other those languages to the south and east of them known collectively as the Nguni languages - Zulu, Xhosa and Swazi. As far as first-hand language material is concerned this paper is concerned with Xhosa, though attention will be paid to the literature on other languages.

The grammatical categories in question vary a little from language to language, but there are three core categories which are always involved. These are the three that are involved in Xhosa, and they are:

(a) the passive
(b) the locative
(c) the diminutive

All three categories are carried morphologically, and their morphology is relatively simple, as in each case simplex affixes operate. It is the phonology that is complex; and this is largely because *isinkalakahliso* applies. The phenomenon will be dealt with here mainly as it arises in the passive.

In a large number of Bantu languages the verb shows a number of 'extended' forms, in which one of a set of morphological elements, often called 'extensions', stands between the base of the verb and various modal, personal and other endings. Bases are typically of the form $(CV)_nC$- and extensions of the form -VC-. Illustrative examples of them in Xhosa follow, in the standard orthography, in which digraphs

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such as *gx*, *sh*, *hl*, *ts*, *ph*, *ny*, *ty*, *nq*, *mb* , *dl* and others serve to reflect unit consonants:

| | | | |
|---|---|---|---|
| *luma* | 'bite' | *lumeka* | (Stative) |
| *bhona* | 'see' | *bhonisa* | (Causative) |
| *hlala* | 'stay' | *hlalela* | (Directive) |

In these examples the Stative, Causative and Directive extensions can be seen to be *-ek* -, *-is* -and *-el* -. The final *-a* is a modal marker.

Another extension is the passive, either -C- or -VC-. The -C- is *-w-*, so some passive forms look as follows - for bases that do not end in labials:

| | | | |
|---|---|---|---|
| *betha* | 'hit' | *bethwa* ' | be called' |
| *buza* | 'ask' | *buzwa* | 'be asked' |
| *qeqesha* | 'train' | *qeqeshwa* | 'be trained |
| *gxeka* | 'mock' | *gxekwa* | 'be mocked' |
| *zala* | 'bear' | *zalwa* | 'be born' |
| *phinda* | 'increase' | *phindwa* | 'be increased |

In bases that do end in labials passive forms have *isinkalakahliso* consonants at that point together with *-w-*:

| | | | |
|---|---|---|---|
| *bhopha* | 'bind' | *bhotʃwa* | 'be bound' |
| *hlaba* | 'stab' | *hlatywa* | 'be stabbed' |
| *luma* | 'bite' | *lunywa* | 'be bitten' |
| *hamba* | 'travel' | *hanjwa* | 'be travelled' |

where *tsh* can be seen to stand in the place previously occupied by *ph*, *ty* in that of *b* and so on.

The phonetic working of *isinkalakahliso* is described for Xhosa by McLaren (1955: 101) as follows :

> 'Labial sounds coming before the passive inflection are changed...just as they are before the locative and diminutive suffixes of nouns. This change may extend to any labial except one in the first syllable of the verbal base'.



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The second part of this characterisation is meant to include cases such as

| | | | |
|---|---|---|---|
| *dubula* | 'shoot' | *dutyulwa* | 'be shot' |
| *bubisa* | 'destroy' | *bujiswa* | 'be destroyed' |
| *tyumza* | 'crush' | *tyunyuzwa* | 'be crushed' |
| *nqumla* | 'cut off' | *nqunyulwa* | 'be crushed' |

Many of the verbs that would fall under the first column are already extended. The second one here, for example, is itself a causative (of *buba*) Others may be morphologically complex. In the last two the *-m-* is syllabic and is the phonetic manifestation of an underlying *-mu-*; we may have to do here and in the first example with fossilised infixes *-ul-* and *-uz-*. The second part of MacLaren's characterisation ('...except one in the first syllable...') goes on to debar from *isinkalakahliso* that small number of Xhosa verbs which have bases of the shape (V)C- and which take the -VC- version of the infix, *-iw-*. Examples are

| | | | |
|---|---|---|---|
| *pha* | 'give' | *phiwa* | 'be given' |
| *dla* | 'eat' | *diwa* | 'be eaten' |
| *osa* | 'roast' | *osiwa* | 'be roasted' |

McLaren's statement on the passive goes on to give the full list of the *isinkalakahliso* correspondences involved:

> 'Thus p becomes tʃ, ɓ becomes ty, b becomes j, mb becomes nj, m becomes ny'

And of the locative he writes

> 'The labial sounds p, ɓ, b, m, mp, mb, when they occur in the last syllable of a noun are usually changed before the locative termination..., especially when the final vowel of the noun is o or u. In these cases p becomes tʃ; ɓ, ty; b, j; m, ny; mp, ntʃ; and mb, nj'.

His examples of locatives with these labial base-final stops + *o*, *u* in Xhosa are (in an earlier, slightly different orthography)

| | | |
|---|---|---|
| *uɓuhlwempu* | 'poverty' | *eɓuhlwentʃini* |
| *incopho* | 'pinnacle' | *encotʃeni* |
| *ihloɓo* | 'summer' | *ehlotyeni* |
| *imbubo* | 'destruction' | *embujweni* |
| *umlomo* | 'mouth' | *emlonyeni* |
| *umlambo* | 'river' | *emlanjeni* |

and, with other final consonants

| | | |
|---|---|---|
| *uɓuso* | 'face' | *eɓusweni* |
| *indlu* | 'house' | *endlwini* |
| *icala* | 'side' | *ecaleni* |
| *ihaʃe* | 'horse' | *ehaʃeni* |
| *ilifu* | 'cloud' | *efini* |
| *umkhosi* | 'army' | *emkhosini* |

The lists also contain examples such as

| | | |
|---|---|---|
| *intaɓa* | 'mountain' | *entaɓeni* |
| *intsimbi* | 'metal' | *entsimbini* |
| *inkomo* | 'ox' | *enkomeni* |

where the consonant of the base form is retained.

The section on Xhosa diminutives shows an addition to the range of consonants involved. McLaren writes

> 'Before the suffix **-ana** labial consonants are usually changed...especially in words ending in **o** or **u**; and **l** is sometimes changed into **dl**'.

Amongst his examples he gives

| | | |
|---|---|---|
| iguɓu | 'drum' | igutyana |
| iintsapho | 'children' | iintsatʃhana |

| | | |
|---|---|---|
| umlambo | 'river' | umlanjana |
| inkomo | 'ox' | inkonyana |
| indlela | 'road' | indledlana |

Doke (1926: 139) presents the sound-correspondences in Zulu as slightly different, though the grammatical categories involved are the same. He refers to the phenomenon as a 'morphological change' and says that it

> '...takes place in the formation of (a) the Passives of Verbs, (b) Locative Adverbs from Nouns and (c) the Diminutive of Nouns, Adjectives, Relatives, and Adverbs. The main rule, which will be deduced from an examination of each of these cases, is as follows:-
>
> ph > ʃ  b > dʒ[1]
> ɓ > tʃʔ  m > ɲ'

Doke goes on from this generalisation to a detailed treatment of the separate categories, in which, treating of the passive, he expands this list to include mpʔ > ɲtʃʔ and m̄mb > ɲdʒ, a list which recurs with diminutives and locatives.

For Swati Ziervogel (1952: 15) has

> 'The occurrence of this phenomenon is limited to diminutives of nouns, locative of nouns and passives of verbs...'

But here, whilst the grammatical categories concerned are the same as for Zulu and Xhosa, the details of the sound-correspondences are not. In Swati there appears to be slightly more phonetic complexity. Ziervogel's lists show that for all three grammatical categories ph > ʃ, b > dʒ, ɓ > tʃ', mp > nʃ, m > ɲ and mb > ndʒ. But whereas tsh > ʃ and dz > dʒ in diminutives, they are matched by tfh and dv respectively in passives. As in Xhosa l at the end of noun bases is

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1 Doke's dɧ here is a misprint.

matched by ɳ in corresponding diminutives, but not apparently elsewhere.

More recently Louw (1975/76) has produced a wide survey, based on first-hand work with native speakers, of the 'facts' of the phenomenon as it appears in a number of Bantu languages of Southern Africa. Louw's survey, taken together with the grammars quoted above and with pioneering essays by Meinhof (eg (1910) on Venda of the northern Transvaal) and by Tucker (1929 on Suto-Chuana), present a compendium of facts about the workings of this phenomenon in the phonological domain which is extensive not only in the geographical but also in the historical dimension, as Bleek's classic *Grammar* (1862) also presents an early exposition of it.

Moving away from the Nguni sub-group of languages, other languages showing parallel displays of sound-correspondences under these conditions are (varieties of) Tswana and Sotho. In Tswana there are, in addition to the sound-correspondences noted for the Nguni sub-group above, also such cases as *-alafa* 'cure' with passive *-alaʃwa* : and in the diminutive there is a range of effects on consonants other than bilabial, as there are in Swazi. Tswana has, for instance, *lorole* 'dust' with its diminutive *lorojana*, *piri* 'hyena' with *pitshane* and many others.

But beyond these languages the phenomenon is no longer found at all. Doke (1931: 19), for instance, writing of Central Shona, refers to

> '...a process occurring particularly in the south-western [ie south-west of Shona - JK] Bantu languages...generally due to the action of the semi-vowel *w* upon certain phones with which it is incompatible in combination...as a morphological grammatical process, [it] does not occur in Shona.'

It is worth noting here that Doke restricts his characterisation to cases with the labial-velar semivowel.

As Doke has hinted, the interpretation of of the *isinkalakahliso* forms in Xhosa is often taken alongside other observations of the phonological structures of the language, which do not have, though, the same, or any, grammatical implications. It has been more than once pointed out for Xhosa syllable-initial consonant patterns in general that

the labial-velar glide can follow velar and dental consonants, but cannot appear after labials. It is this rule that is taken to debar *-pw- and *-phw-, *-bw- and *-ɓw-, and *-mw- from passive forms, whilst allowing -pɪw- etc, which is then taken as the starting point for the developments outlined above, whereby palatals arise in the place of the original labials. This is a reasonable enough observation, though it overlooks the fact that a situation is common in languages whereby phonological juxtapositions that are debarred in the phonotactics of lexical items frequently occur at morphological boundaries.

Some of the earliest suggestions for the analysis of this phonological phenomenon come from Bleek (1862: 51), who devotes several pages to a discussion of it and makes a number of prescient suggestions for analysis. One of these is that already mentioned above

> '...these changes may be explained by assuming that the passive inflection itself contained originally the vowel *i* besides its characteristic labial sound...'

A number of Bantu languages in Southern Africa do in fact have -ɪw- as their unique passive infix; and *-ɪɣw- is the reconstruction proposed by Meinhof (1948: 106) for Urbantu. Tsonga, of southern Mozambique, is a language with only an -ɪw- passive (Louw 1975/6: 241). But in other languages the situation is more complex. In Venda, as described by Meinhof, -ɪw- is only one of a series of alternants for the passive. He gives the following examples (1901: 28)

| | | | | |
|---|---|---|---|---|
| tamba | tambja | tambɣa | | 'wash' |
| kapa | kapja | kapχa | kapɪwa | 'clear out mud' |
| beba | bebja | bebɣa | | 'bear (child)' |

where passives of verbs with bases ending in labials can be seen to have two or even three alternants. Louw's more recent material on Venda shows the present situation to be more complex still. He gives -ɪw-, which he calls 'the basic form of the passive extension' and, after labials, a range of others. So, for one of Meinhof's verbs, *-beba* , he gives four basic possibilities, Meinhof's two and two others

-bga -bgwa -bɣa -bɟa

He also mentions two other variants, given as [oa] and [ya]. These last two appear to have distributional restrictions; and it also seems likely that at least in some cases the different variant forms have been assigned to different specialised meanings. The first three cases, with the velar articulations, are reminiscent of some of the passive forms of Shona. Doke (1931: passim) has for the Karanga variety of Central Shona, and alongside some sporadic tokens of -IW-, such forms as

| | | |
|---|---|---|
| tapa | tapxa | 'capture' |
| timba | timbɣa | 'dig' |
| kama | kamɲa | 'milk" |

and for the Zezuru variety

| | | |
|---|---|---|
| rapa | rapka | 'cure' |

The complexity of the situation is increased by Tucker's (1929: 79) material, though part of it might be thought to throw helpful light on the putative phonetic processes involved. In Pedi of the Transvaal, which belongs to the Sotho-Tswana group, passives of verbs with bases ending in labials look as follows in Tucker's material

| | | |
|---|---|---|
| ɾipa | ɾipɥa | 'cut' |
| alaɸa | alaɸɥa | 'cure' |
| ɬopha | ɬopɥha | 'heap up' |
| ɬaʋa | ɬaʋɥa | 'stab' |

as against forms such as ratwa and rɛkwa for rata 'love' and rɛka 'buy'. Sotho and Tswana have regular *isinkalakahliso* forms like thotʃwa and ɬaʒwa as the passives of thopa and ɬaba. Tucker emphasizes two points about the Pedi forms: that the rounding associated with [ɥ] 'is not so palatal as the French semi-vowel in lui '

and that it extends 'throughout the articulation of the labial sound'. He summarizes

> 'Whereas in SePedi the main articulation is at the lips and the secondary articulation with the front of the tongue, in SeSuto and SeChuana the palatal secondary articulation has become the main one, there is no more lip contact, while the lip-rounding is combined with re-raising of the back of the tongue. What we hear, then, are back-labialised palatals instead of front-labialised labials'.

Tucker's explanation for this presence of [ɥ] in Pedi is that labials are rounded differently in that language

> 'In the case of labial sounds, however, the native rounds his lips and raises *the middle of his tongue* instead of the back, with the result that we hear a *palatalised* w running through the original consonant.'

The validity of this as a general argument appears to be lessened rather, though, by the Pedi forms latswa and eɲwa that are given elsewhere by Tucker as the causatives of lapa and ema The difference between the forms of the passive and causative are presumably to do with their derivational histories. Tucker does not deal with this, but Stahlke (1976) uses corresponding material in Tswana as part of the argument, summarised below, seeing the -w- element of the causative as being necessarily the manifestation of the labiality at the end of the base form, since there is no inherent labiality in the causative affix in Bantu languages. This affix is, rather, associated in many of these languages with palatal effects.

The interest in *isinkalakahliso* arises because of the supposed unusual nature of sound-correspondences of this type, and particularly as represented by the passive, where the appearance of the *isinkalakahliso* consonants, which have in general lamino-palatal articulations, is associated with the presence of a labial-velar element. Apart from the typological interest, there is interest too in the problems posed for

phonological analysis and statement. Ohala (1978), in his discussion of the typological aspect, has shown that sound-correspondences of this kind, where labials in one situation correspond to lamino-palatals in another are in fact not all that uncommon. He lists a number of cases from various groups of related tongues - amongst others, Tai, Romance and Nupoid of Northern Nigeria; and he motivates the general relationship bilabial to lamino-palatal as having its basis in auditory similarity. None of these cases, though, shows the intimate tie-up of the phenomenon with a labial-velar element, as Ohala acknowledges. Stahlke (1976) is concerned with the analytical problems posed by these phonological relationships, and takes the phenomenon as it is associated with the passive in Tswana as one of a set of examples designed to show the necessity for the introduction into phonological analysis (of the transformational-generative kind) of the notion of fusion of phonological units. He makes reference to the fact that the 'prosodic' analysis of the kind practised by J. R. Firth and his colleagues allowed for such fusion by their challenging of what Stahlke calls the 'segmental discreteness postulate'. Ohala, whose paper is intended to support Stahlke's argument, makes use of Tucker's model for Pedi, with its labio-palatal glide element, in conjunction with his own earlier claim for 'the phonetic naturalness of labials shifting to dentals when followed by palatal glides'. A prerequisite in this argument, and one not explicitly stated by Tucker, is a prior change of -ɪw- to the labio-palatal glide [ɥ] after labials, providing the correct environment for the consonantal change. This putative change Ohala refers to as the 'coalescence' of -ɪw-. He quotes with approval a remark by Meinhof (1932: 16) about a process in which 'sounds...exchange their quality'; but this is not what is happening here. Meinhof, like Bleek, includes this remark under a section called 'Transposition' - but rather cumulation, and not exchange, is what is involved in the examples that these writers provide, and in 'coalescence' Ohala had the right word at the outset. Endemann (1876: 19) has the same image, discussing these consonantal phenomena in Sotho under the heading of 'Wandlungen und Verschmelzungen von Lauten'.

Both Stahlke and Ohala, then, wish to see the effects associated with the passive as arising from the complete overlap of the phonological properties of labiality and palatality. In their analyses the

labial-velar glide of such passive forms as *gqitywa* 'be finished' is the representative not so much of the -w- of the passive -ɪw-, but more of the labiality at the end of the base in *gqiba*.; it is the result of movement from this *rounded* intervocalic plosive ([c']) to the following non-rounded vowel [a]; and it happens to fit phonetically with the authentic passive affix. In this [c'] there are coalesced the palatality –ɪw–, the stop articulation of the [ɓ], and the labiality of both the [ɓ] of the base and of -ɪw-. Ohala makes reference to the term 'feature shuffling' coined by Henderson (unpublished 1975) to designate this effect - a term which is reasonably apt as long as the image is not taken too literally, since cards in a pack are discrete items with each its own exclusive space!

Louw (1975/6) gives an interesting range of phonetic manifestations of passive forms over a large set of relevant language varieties. He shows that a number of the phonetic events that might be hypothesized as stages in the development of the fully-fledged *isikakalhliso* can in fact be attested. One such is a phonetic form that Louw writes as -rɔbʒʷa (for the verb -rɔba 'break'), which he finds in certain Northern varieties of Tswana and which forms a link between the -bʊa of Venda and the final widespread version -dʒʷa. These forms show how very unhelpful monolinear transcriptions of this kind are when we are trying to secure insights into phonetic developments. The form -rɔbʒʷa looks as though it could contain two separate tokens of labiality, one at [b] and one at [ʷ] (since [ʒ] is not necessarily rounded by convention); and, taken literally, this might be taken as evidence against Ohala's (and Stahlke's) claim that the labiality of the modern passive is the manifestation of the labiality at the end of the base. A more detailed and consistent exposition of the labial and palatal components of a form such as this would allow it to be better assessed and utilised, both as a member of a chain of hypothesized stages in development and as a viable phonetic realisation for a particular phonological matrix.

Work carried out on the phonetics of Xhosa with a young male adult native speaker from iQonce (King William's Town) suggested that the disposition of the spoken material relating to the passive verbal forms of a modern Xhosa speaker is in fact in accordance with the

underlying phonological elements and patterns sketched by the writers whose work is summarised above. For example, the middle portion of *uhlatywe* (the passive of *hlaba* 'stab') in *uhlatywe nguye* 'he was stabbed by me', in which we have to do with the constructed abstract sequence -ɓ+iw- is phonetically [ɕ'ʷ]. Now this is at first blush not particularly surprising. Since [w] is rounded we might expect rounding at [c' ]; and as this is palatal we might expect frontness at [w]. And the same can be said about the rounding and palatalisation shown in the transcriptional record for the [ʃ ] of orthographic *nihlushwa nguye*, 'I am teased by him' (from *hlupha* 'tease'). But none of these things need be. Effects such as fronting, backing and rounding are in principle free to be aligned with other articulatory elements in any of a number of ways: and there is no *a priori* reason for rounding be aligned with the plosive element in the first of these examples or for rounding and front resonance to be associated with the lateral in the second. It is not necessarily the case that all resonances harmonise, as it were, from one segment to the next in a unique or a consistent way. In a sequence of [g] and [ɪ], for example, the articulatory dynamics might produce any of a number of outcomes - a leftwards coarticulation, giving [ʒ] before a stable [ɪ]; a rightwards coarticulation, [gɪ]; neither ([g] and [ɪ] unaffected, giving [gɪ]); or both [ʒɪ]. Different languages do things differently: Polish, for example, is usually conventionally presented with [ʒi] for orthographic *gi* (Biedrzycki 1978), whereas my transcriptions of Hausa show [gɪ] for the corresponding combination in the Hausa orthography. And there are, of course, intermediate stages; English *geese* and *key* are usually said to have [g+] and [k+], an intermediate stage not given in the cardinal scheme above. Again, it is possible, for, say, laterals of relatively dark resonance to precede relatively front-resonance vowels or for resonances of the clear or dark kind to change whilst some other (the 'main') articulation is being held constant. This second effect is quite common in laterals and nasals, giving [¬], for example, as a single intervocalic consonant. The conventions governing what happens may indeed in some languages be organised regularly in a relatively superficial way around, say, linear juxtapositioning; and a leftwards mode of overlap in such a

configuration may be the most general one universally. But other modes of overlap (including its absence) may instead be organised around the presence at a deeper level of such things as boundaries or what we might call 'submerged' features. Kelly and Local (1989) illustrate and discuss a number of cases where such effects are shown to operate in ways not in accordance with a simple (eg leftwards juxtapositional) coarticulatory model.

The fact that there is consistent clearness *and* rounding over what are phonologically -Ciw- structures in these particular Xhosa passives.has to be taken together with similar facts in the non-*isinkalakahliso* cases. Clearness and rounding in the [l] of *ibhalwe* is a case, for instance, in *incwadi ibhalwe* 'the book was written'. In *isithandwa* 'lover' (='one who is loved') the final syllable is noted as [n̪d̪wa̪] . Here the last vowel is of the *same* quality as that of *thanda* 'to love' - it is not *backer*, as we might expect if following expectations of a simple CV leftwards coarticulatory model. The next transcriptional detail to notice is that the [w] of this word is *clearer* in resonance than in eg *ikhwapa* 'armpit' or *isiqhwala* 'cripple'. The same observations hold for *-dwa* in the phrase *bancedwa bonke* 'all were saved' and in general for the passives of bases ending in the dentals [t d s z n l]. The final syllable of *bacwedwa* I find transcribed with [a̪] in my material, whereas I have [ɣ] for the corresponding syllable of *kuhlwa* 'evening'. There is, then, evidence of overall palatal quality in these passive endings, which we can meaningfully account for by identifying it as the phonetic matter relating to an underlying -i-. Then the overall palatal quality at corresponding points in the passive of other verbs of the same general structure ($(CV)_nC$-), such as *botshwa* 'be bound', *thunywa* 'be sent' can be taken to be similarly assignable.

In certain types of verb, as we have seen in examples above, *isinkalakahliso* consonants are absent, and the passive is produced by the use of what has been called the 'basic form of the passive extension' (Louw 242), that is, the one in which *-iw-* appears. Most commentators leave these out of their analyses, though it would be preferable that they should be included. These verbs, in fact, present a classic case of the type of phenomenon that Firthian phonological analysis was meant to deal with, in that they are typified by a number of apparently discontinuous and disparate phonetic features. These are

(i) zero consonant at the beginning of the base, and
(ii) the *-iw-* infix following it.

two things that appear to be phonetically unrelated. But in fact there is a commonality between the beginning of the verbal bases and the extensions in these verbs. The verbal noun prefix in Xhosa is *uku-*, and before vowel-initial bases this is either *uk* - (before rounded vowels) as in *ukumba* 'to dig' (passive *ukumbiwa*) or *ukw-* (before front vowels) as in *ukwenza* 'to do'. And, whilst in verbs that have consonant-initial bases the *uku-* is not present in personal forms, in verbs with vowel-initial bases a *ku-* or *kw-*is retained throughout; it is a permanent marker. So the approach to *isinkalakahliso* that will be suggested here is that this class of verb be taken as phonological 'labiovelar pieces', where 'piece' is a preanalytical abstraction. In them, as distinct from verbs with consonant-initial bases, there are two bouts of labiovelarity. The first bout of labiovelarity is that arising from the junction of prefix plus base in the form of [ku] or [kw]; and the second bout is of course the [w] of the passive affix. The passive element might be regarded as a 'labio-palatal piece', having, as it does, its -VC- structure manifested by the abstract -iw-. Verbs, then, in which the labiopalatal piece is entirely *included within the domain* of a labiovelar piece, in which, that is, the verbal base is *flanked* by labiovelarity, are not amenable to the working of the *isinkalakahliso* effect at the end of the base. This seems to be an entirely reasonable outcome from the phonetic point of view. In these verbs, a variety of close front vowel is present in the phonetics of the passive-affix. The word 'variety' is used here as the vowel of this infix is usually [ɩ], that is, a good deal less than maximally front in these pieces dominated by velarity.

Verbs like *bujiswa* above with dual manifestation of the passive element are usually explained on the grounds of the morphologisation of *isinkalakahliso*. This idea was first put forward by Bleek (1862:54)

> 'It may be, however, that these cases of apparently far-working phonetical influence are rather to be explained as formations caused by analogy, or as grammatical inferences of the natives.'

and has been endorsed by later scholars, particularly Herbert (1977). If this claim is correct there may be little that can be said about the phonology of this class of verb. In any case my examples of this are very few. It will be remembered here that the examples of the locative given above included a set in which there is and a set in which there is not *isinkalakahliso*, with no apparent phonological motivation.

The mechanisms involved for the diminutive and locative must be different in detail, since different classes of sounds are involved in both the bases and the affixes. But for all these cases a combination of labiality and palatality is in operation whereby the features present are rearranged or 'shuffled'. The new coordination of the features over time is often such as to allow for its 'grossing up', in broad terms, as a sequence of new segmental types. These segmental types may be quite easily captured later in a phonemic transcription or translated into an orthography. But neither of these is necessarily particularly illuminating when it comes to explicating the workings of the phonological and historical processes involved or making a general statement.

An ideal interpretation of *isinkalakahliso* in the Xhosa passive would

(a) bring together those verbal categories that have the distinctive consonants with those that have [l]
(b) avoid the distortion of the phonological shape or identity of the verbal base by introducing a 'change' or 'replacement' of some item
(c) account for the non-appearance of the *isinkalakalhliso* consonants by appealing to general phonological principles of the same kind that are held to underlie its appearance
(d) take into account and be consonant with all of the observed detail of the impressionistic phonetic record.

Some of the earlier analyses have included, more or less explicitly and with greater or lesser degrees of formalisation, (a) and (b) above. In this paper I have tried to move towards the incorporation of (c) and (d) into the general approach.

*Isinkalakahliso* means 'palatalisation' in Xhosa, from *kalakahla* 'palate' plus the causative suffix we have met above. But the English names used in the literature vary, depending on just which part of this complex phenomenon is focussed on. Some writers, such as Doke, call it 'palatalisation' too. But for him, as we have seen, 'palatalisation' is connected *exclusively* with -W-, a characterisation that seems perverse and puzzling to the linguistically-schooled reader. And Tucker makes confusion doubly confounded by dealing with it, as it affects the passive, under 'Labialisation', as he makes no connection with a close front vowel. He thereby dissociates the passive from the locative, which he treats in a different part of his monograph under 'Palatalisation'. These examples show the difficulties that can arise in labelling this kind of sound-relationship. And, of course, the label 'palatalisation', as in use here, means something quite different from the same label as used in phonetic theory! In the discussion in this paper I have tried to deflect any prejudice on the reader's part by avoiding premature English labelling, but I would be happy to follow in the tradition of using the term 'palatalisation'. What I have had new to offer by way of observation and theorising does indeed go some way towards justifying the use of this term.

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